



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
Accelerating Energy Efficiency

CONNECTICUT'S GLOBAL WARMING SOLUTIONS ACT: ENERGY, ECONOMY AND POLICY

Building Energy Rating

Carolyn Sarno
Senior Program Manager

NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

“Accelerating Energy Efficiency”



MISSION

Accelerate the efficient use of energy in the Northeast and Mid-Atlantic Regions

APPROACH

Overcome barriers to efficiency through
Collaboration, Education & Advocacy



VISION

Transform the way we think about
and use energy in the world around us.

LABELS / RATINGS

Nutrition Facts	
Serving Size 1 cup (236ml)	
Servings Per Container 1	
Amount Per Serving	
Calories 120	Calories from Fat 45
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 3g	15%
Trans Fat 0g	
Cholesterol 20mg	7%
Sodium 120mg	5%
Total Carbohydrate 11g	4%
Dietary Fiber 0g	0%
Sugars 11g	
Protein 9g	17%
Vitamin A 10%	Vitamin C 4%
Calcium 30%	Iron 0%
	Vitamin D 25%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	



Based on standard U.S. Government tests

ENERGYGUIDE

Water Heater – Natural Gas
Capacity (first hour rating):
57 Gallons

GSW Water Heating Company
Model: JW540SNA
H4400

Compare the Energy Use of this Water Heater with Others Before You Buy.

This Model Uses		268 therms/year
Energy use (therms/year) range of all similar models		
Uses Least Energy		Uses Most Energy
238		273

Therms/year is a measure of energy use. Your utility company uses it to compute your bill. Only models with first hour ratings of 56 to 64 gallons are used in this scale.

Natural gas water heaters that use fewer therms/year cost less to operate. This model's estimated yearly operating cost is:

\$162

Based on a 1994 U.S. Government national average cost of \$0.604 per therm for natural gas. Your actual operating cost will vary depending on your local utility rates and your use of the product.

Important: Removal of this label before consumer purchase is a violation of Federal law (42 U.S.C. 6302)



THE CHALLENGE



- Existing buildings account for 40% of energy and CO₂ emissions
- Most EE programs focus on new construction and natural replacement opportunities
 - Discretionary retrofits often neglected
- Market barriers to EE retrofits are strong
 - Sales and rental markets fail to value energy efficiency
 - Split incentives

AN 'ENERGY GUIDE' FOR BUILDINGS



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
Accelerating Energy Efficiency



The cover features the logos for **dunsky energy consulting** and **neep** (Northeast Energy Efficiency Partnerships) at the top. The title is centered in a dark blue band. Below, the report title and authors are listed in a light blue area.

**VALUING BUILDING ENERGY EFFICIENCY THROUGH DISCLOSURE AND UPGRADE POLICIES
A ROADMAP FOR THE NORTHEAST U.S.**

A DUNSKY ENERGY CONSULTING REPORT
in collaboration with VERMONT ENERGY INVESTMENT CORPORATION

Philippe Dunsky, *President, DEC*
Jeff Lindberg, *Consultant, DEC*
Emahé Piyak-Sheard, *Senior Consultant, DEC*
Richard Faasy, *Senior Project Manager, VEIC*

For NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
under the direction of Ed Schmidt, *Director of Regional Initiatives*

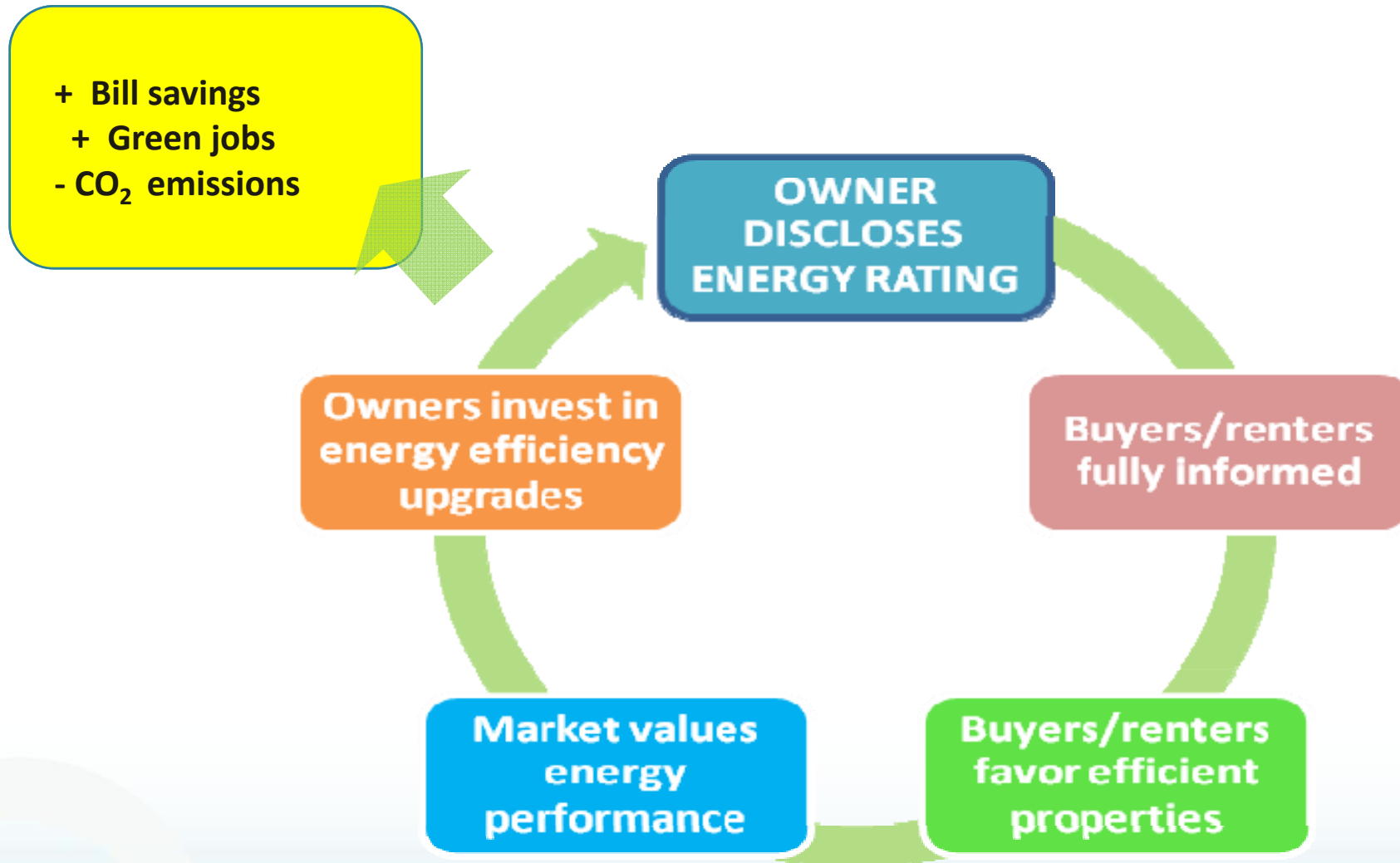
NOVEMBER 2009

INGREDIENTS

- Enabling legislation
- **Rating system**
- Rating system management
- **Trigger points**
- Data collection and registry
- Enforcement
- Rater infrastructure
- Phase in strategy
- Link to incentive programs



MANDATORY UPGRADE POLICIES



TWO MARKETS, TWO APPROACHES

HOMES



- ✓ Triggered Disclosure
(*"Time of Sale" / "Time of Listing"*)

COMMERCIAL BUILDINGS



- ✓ Triggered Disclosure
and
- ✓ Ongoing Disclosure

DOE- PILOT



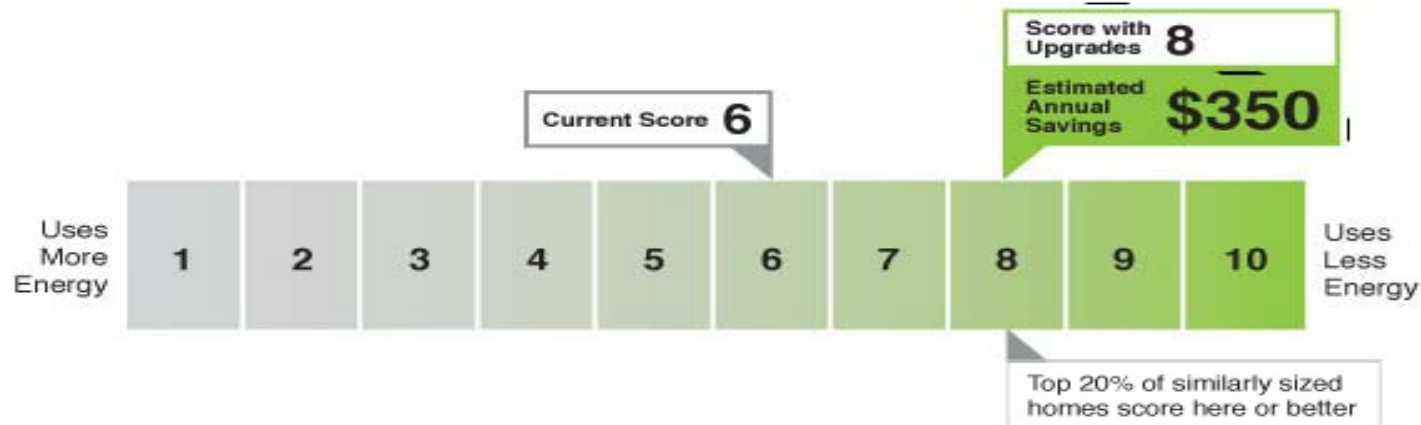
NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
Accelerating Energy Efficiency

HOME ENERGY SCORE

Address **12345 Honeysuckle Lane
Unit 3
Smithville, AR 99999**

Total Energy **200 MBTUs / year**
Home Size **2,300 square feet**
Air Conditioning **Yes**

Climate Zone



Energy use reported in Million British Thermal Units (MBTUs). Estimated savings reflect the amount a homeowner will save on their annual utility bill if all recommended improvements are made. Both energy use and savings estimates assume that 2 adults and 1 child live in the home. Your actual energy use and savings will depend on how you maintain your home, how many people live there, your day-to-day habits and weather. To learn more about how to save energy and money in your home, as well as more about the home energy score, visit: homeenergyscore.gov



U.S. DEPARTMENT OF
ENERGY

Assessor # **55555** Assessment Date **12/31/2010** Label # **123456789**

WORKING TOWARDS ZNE LABELS



Custom-designed Arts & Crafts style, 3 bedroom, 2 bath fully-equipped, super-insulated, passive solar, grid-tied 6K PV system, sustainable lumber, natural finishes. Beautiful design.

Alna, Maine — Green Home For Sale



- ✓ Green Home
- ✓ Healthy Home
- ✓ Natural Home



Asking Price (US\$):	\$299,000
Annual Property Tax	\$3,000
Annual Utility Cost	\$120
Home Area:	1,700 ft ²
Bedrooms:	3
Bathrooms:	2
Total Lot Size:	2.87 acres
Year Built:	2008

Property Description

<http://www.greenhomesforsale.com/listing.php?id=18970>

EXAMPLES



NORTHEAST ENERGY EFFICIENCY PARTNERS
Accelerating Energy Efficiency

A-
AS DESIGNED



BUILDING ENERGY QUOTIENT™

The Building Energy Quotient™ (BEQ) is a metric used to compare the energy performance of buildings. It is based on the energy use intensity (EUI) of the building compared to the EUI of similar buildings in the same geographic area.

Score of 100
At Construction
In Operation

BEQ is based on the energy use intensity (EUI) of the building compared to the EUI of similar buildings in the same geographic area.

Building Location
100 (100% of the BEQ)

June 15, 2009
June 7, 2009

COMMERCIAL BUILDING
Energy Performance

California Energy Performance Rating

156

kbtu/sf-yr

California Median CA - EUI Median Value: 208 kbtu/sf - yr
Percent of Median: 92%

Building Name:

Building ID: **BUILDING ID CODE**

Issue Date: **DATE**

Building Type: **RETAIL STORE**

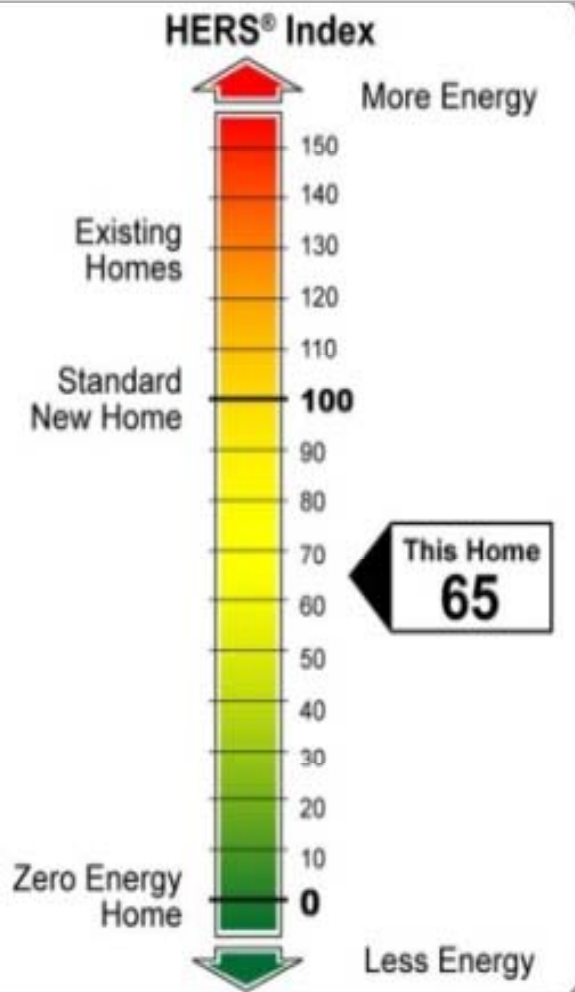
The score for this building was determined based on the information provided below.

This data has been field verified on _____ by: _____ Name: _____ Address: _____ City, State, Zip Code: _____ Gross floor area (SF): _____

Energy Use Index	
Raw	171
Weather normalized	156

Default Used Data Entered

- Weekly operating hours
- Number of workers on main shift
- Number of personal computers
- Number of cash registers
- Number of walk-in refrigeration/freezer units
- Number of open & closed refrigeration/freezer cases
- Percent of floor area that is cooled in 10% increments (10%, 20%, 30%, etc.)
- Percent of floor area that is heated in 10% increments (10%, 20%, 30%, etc.)



SYNERGIES – POLICY TOOLS

Maximize Energy Savings

- Building codes
 - Encourages compliance
 - Facilitates enforcement
- Voluntary Retrofit Programs
 - Use existing programs
- Financing



WHO BENEFITS

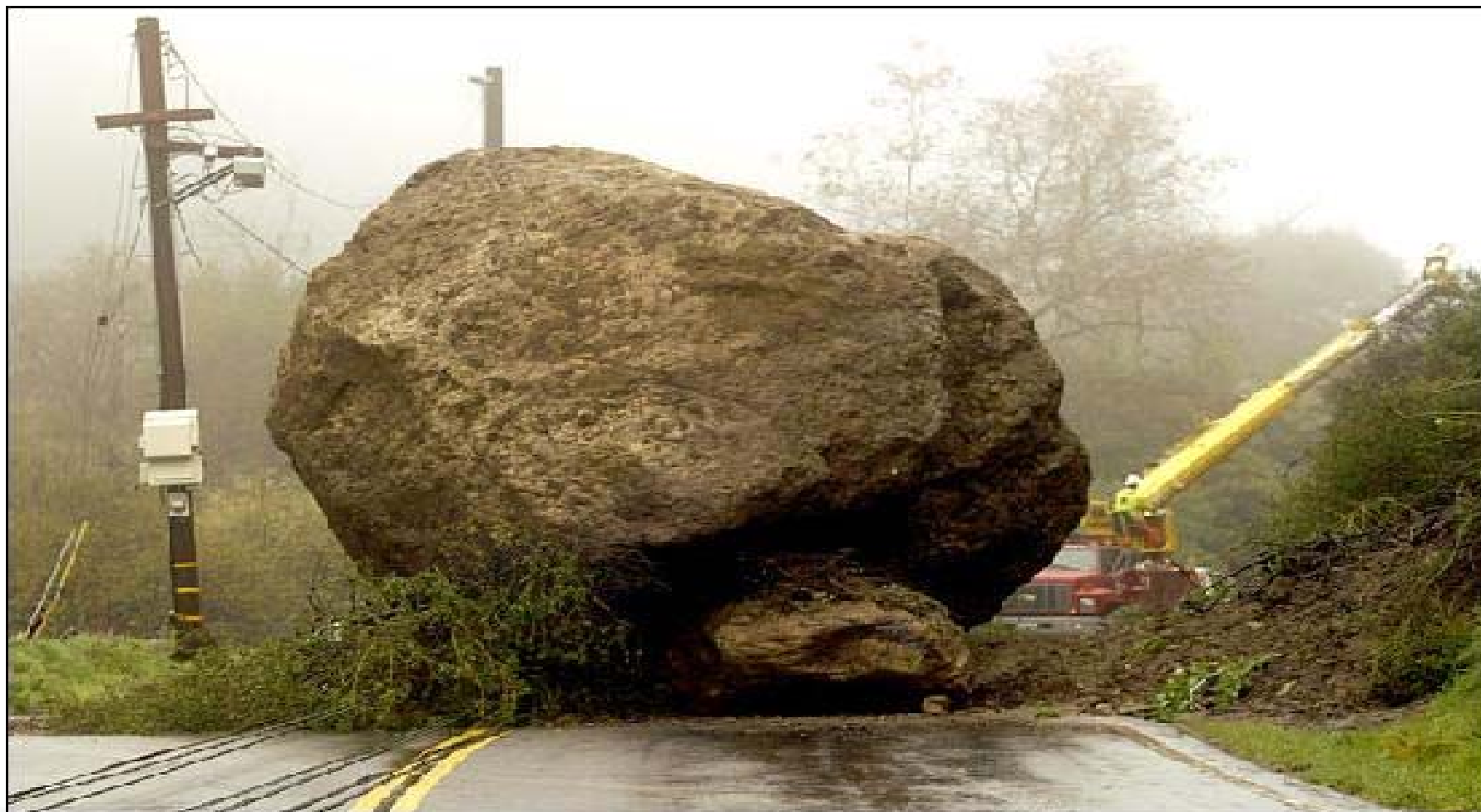
- Property Owners
- Buyers and Renters
- Commercial Buildings
- Energy Auditors
- Contractors
- Developers
- Realtors
- Energy Service Companies (ESCOS)
- Utilities
- Financial lenders



BARRIERS

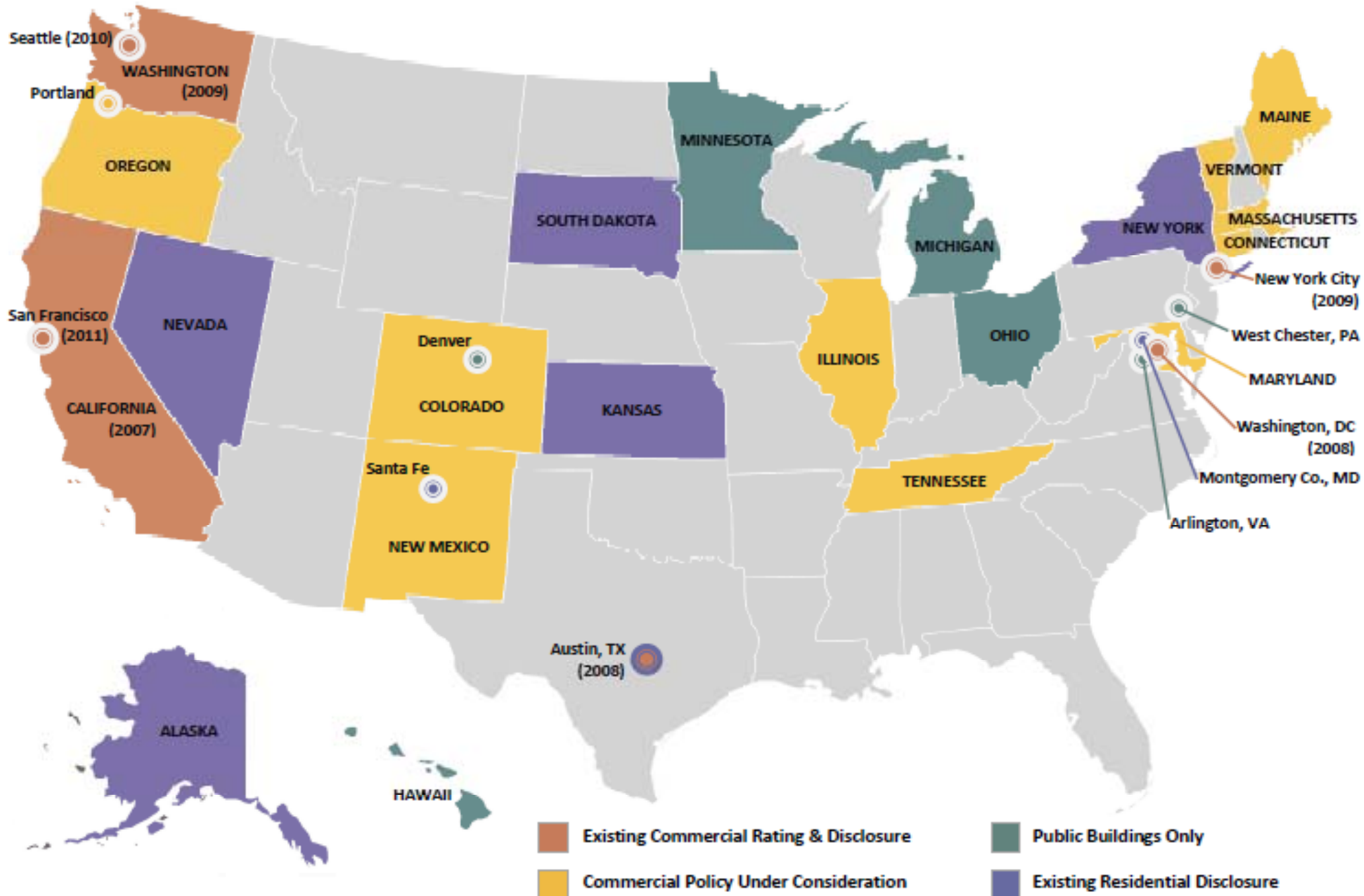


NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
Accelerating Energy Efficiency



U.S. Building Rating and Disclosure Policies

For more information, please contact Caroline Keicher, Institute for Market Transformation at (202) 525-2883, caroline@imt.org
To access this document online, see www.imt.org/rating or www.buildingrating.org



KEYS TO SUCCESS

- Trusted Rating System
- Clear Messaging
- Strong Enforcement
- Timely (early) Disclosure
- Link to Action



NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS
Accelerating Energy Efficiency



RESOURCES



DOE Home Energy Score

<http://www1.eere.energy.gov/buildings/homeenergyscore/>

Building Rating.org

<http://www.buildingrating.org/>

Northeast Energy Efficiency Partnerships (NEEP)

<http://neep.org/>



THANK YOU

Carolyn Sarno
Senior Program Manager
High Performance Buildings
csarno@neep.org

Northeast Energy Efficiency Partnerships

91 Hartwell Avenue Lexington, MA 02421

P: 781.860.9177 x 119

www.neep.org

June 20, 2011